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ABSTRACT

In a variety of ways many universities and colleges are experimenting with new approaches to improve teacher education, most designed to further the individualization of instruction. Attention has been called to the following new developments: (1) forms of self-directed inquiry; (2) individualized skill and affective development; (3) self-analysis through videotape and interaction analysis; and (4) other attempts to facilitate the transition from the role of the student to that of self- and other-actualizing teacher. A number of research centers and individuals are developing models of teacher education which incorporate the elements described above and which place a new emphasis on the personalization and individualization of education. Research by these centers indicates that individualized instruction creates more effective teachers and more effective students. Influenced by such reports, many teacher education programs are providing more opportunities for the pursuit of individual goals and interests in learning situations and are making increasingly greater use of various individualized instruction methods including: independent and tutorial study; laboratory experiences; audio or videotape tutorials; programmed instruction; adjunct programming; personalized systems of instruction; contract teaching; simulation games; minicourse units; and student teaching and internships. Use of all these methods in teacher education seems likely to grow. The emphasis today is shifting towards teaching students how to learn for themselves so that upon graduation they will be prepared for lifelong self-education. (MM)

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INDIVIDUALIZED INSTRUCTION: A NEW FORCE IN TEACHER EDUCATION

Professional schools today are searching for new ways of teaching which can help students assimilate the expanding body of relevant knowledge and at the same time perceive the interrelated and broad dimensions of that knowledge. Mayhew, in his study of curricular change in the professions, affirms that, "the renewed interest in individual research and independent study stresses a renewed faith that students should have more responsibility for their education and what and how they should study."[1] Henderson sees this emphasis on individualized instruction as "almost a revolution in teaching in many professional schools."[2] He calls attention to the need for teaching future professional leaders how to learn. This stress on learning how to learn is echoed by Houle: "If you teach a person what to learn, you are preparing him for the past. If you teach him how to learn, you are preparing him for the future."[3]

Professional training is obviously shifting away from making students learn massive bodies of accumulated obsolescing knowledge toward an orientation in independent research and the kind of self-renewing skills needed to produce graduates who will be continuing students. There are more than 1,240 institutions of higher education in the United States accredited for professional training of teachers by regional or state accrediting associations.[4] With such a large number of programs, more than provided for any other profession, it is not surprising that in teacher education every well-known individualized instruction method is practiced and a growing amount of literature has been produced which centers on the need for individualized instruction. Only a selection of these articles will be reported here.

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There is no lack of research reports on the general dissatisfaction of education students with their professional preparation.[5] Yamamoto and his associates, for instance has reported the "rather pervasive feeling in students of frustration at what they perceive to be trivial, fractionized, and irrelevant curricular experiences."[6] The researchers evidently believe that the students are right in their charge that they are not being taught what they need to know in order to be effective teachers.

This lack of attention to individual student needs is a matter of grave concern. Peck, in Research in Teacher Education, a Symposium, contends that:

> Contemporary practice seems largely to treat students as passive, teacher-controlled units in an almost faceless mob. . . . The evidence indicates, moreover, that there is extremely little provision in our schools for the development of individual initiative in any way that could lead to wisely self-disciplined action, when the chance for independent action ultimately does rise.[7]

Peck and other have laid the blame for this situation on the lack of personalized, individualized instruction in the professional education of teachers. At the same time, they have pointed out that "the means for helping teachers to individualize their teaching and even to direct it toward responsible, independent thinking and action by students"[8] are readily at hand.

In a variety of ways many universities and colleges are experimenting with new approaches to improve teacher education, and most of these seem designed to further the individualization of instruction. The 1971 report of the Research and Development Center for Teacher Education at The University of Texas at Austin called attention to the following new developments: "(1) forms of self-directed inquiry; (2) individualized skill and affective development through tutoring, microteaching, and simulation; (3) self-analysis

through videotaping and interaction analysis; and (4) other attempts to facilitate the transition from the role of student to that of a self- and other actualizing teacher."[9]

A number of research centers[10] and individuals[11] are developing models of teacher education which incorporate the elements described above and which place a new emphasis on the personalization and individualization of education. Research by these centers indicates that individualized instruction creates more effective teachers and more effective students.[12] Such teachers and students are "more self-starting, more self-motivated, more open-minded, and more self-disciplined."[13]

Influenced by such reports, many teacher education programs are providing more opportunities for the pursuit of individual goals and interests in learning situations and are making increasingly greater use of various individualized instruction methods. Cooper and Sadker, in analyzing current trends in teacher education, rightly declare: "Teacher education curriculum designers are slowly recognizing that if their trainees are to be expected to individualize instruction for their students they should experience an individualized curriculum themselves."[14] Increasingly this individualization is becoming a reality. An examination of some of the literature on the use of differing methods of individualized instruction is revealing.

INDEPENDENT AND TUTORIAL STUDY

Hixon reports on an inter-university project administered through the four schools of education of the University of Buffalo, Cornell University, the University of Rochester, and Syracuse University. This project, financed in part by the Ford Foundation, involves the exploration of effective

ways of guiding the study of honor students in teacher education programs through use of independent study. Students read from a bibliography, have individual conferences with instructors, and receive special tutorial guidance. The project was designed to discover if independent study produced a better understanding of teaching, to determine how independent study could best be used to increase the meaningfulness of professional education, and to ascertain what parts of the independent study program could be adopted for use with average students.[15]

Initial results, as indicated by Hixon, appear to show that as a result of their independent study, students were challenged to read more analytically, were more encouraged to relate theory to practice, and were able to perceive more relevance in their professional educational courses. Students with previous experience in independent study adjusted more readily to the experience. A few problems of drift or a sense of disorganization occurred with some students, but most of them showed more than satisfactory progress through the program.[16]

In its report in 1965, the Harvard University Committee on the Graduate Study of Education, as a result of its review of educational practices at Harvard and other universities throughout the country, recommended an increased effort to experiment with tutorials and individual research courses.[17] Experimentation with other methods of individualized instruction has also been encouraged and conducted.

LABORATORY EXPERIENCES

Sandefur and his associates compared the behavior of sixty-two students in a program of education for future secondary education teachers which

utilized laboratory experiences to supplement classroom theory with the behavior of fifty students in a conventional nonlaboratory control group. They discovered that the experimental group demonstrated more desirable teaching behaviors.[18]

AUDIO OR VIDEOTAPE TUTORIALS

Several studies on the use of audiotapes in both graduate and undergraduate teacher education have been reported. Popham made use of thirty-four half-hour tape recorded lectures which were heard by students prior to brief group discussion led by the instructor. When compared with a group taught by lecture and discussion only, no significant differences in achievement were found.[19] Wendt and Butts reviewed six studies of the use of tape, one of which produced differences in favor of the lecture presentation. The other five studies indicated no significant difference between experimental and control groups.[20] A study by Menne and his associates showed that tape-recorded lectures could be as effective as the traditional lecture presentation in supplying information. Unlike the Popham studies, these taped lectures were made available on an individual basis, and students proceeded at their own pace. Student reaction to the taped lectures was described as generally favorable. It was also noted that the dropout rate was much lower in the tape-lecture groups, although this may have been due to other variables.[21]

PROGRAMMED INSTRUCTION

Other than for courses in statistics, behavioral objectives, and tests and measurements, few programmed textbooks have been prepared for teacher education courses.[22] Experiments are being conducted at Pennsylvania State University and the American Institute for Research with the use of televised

programmed materials. Carpenter and Greenhill point out that such a procedure provides "opportunities for student response and reinforcement during a television presentation, but it also makes possible the inclusion of non-print materials such as films, pictures, demonstrations, and resource people in programmed sequences."[23] They note that the experimenters believed that learning will be greater than with the use of conventional methods.

ADJUNCT PROGRAMMING

A 1972 report on the individualized, competency-based system of teacher education at Weber State College gives strong support for the use of adjunct programming. The faculty at Weber College have developed an extensive series of individualized instruction modules called WILKITS (Weber Individualized Learning Kits) to replace the lecture system. Students study at their own convenience and make their own decision as to when they are ready for final testing. They also have the privilege of choosing between alternative learning experiences within a module. The program began in 1970 and results thus far, although unconfirmed by experimentation or statistical analysis, are as follows:

> Both students and faculty are working harder than they did under the previous system. Students are learning more of the skills of teaching than ever before. There is a friendlier and more cooperative student-faculty relationship than formerly. Students are accepting and carrying out responsibility for many decisions concerning their own preparation.[24]

PERSONALIZED SYSTEM OF INSTRUCTION

Hastings has reported an experiment in a graduate course in educational research at the University of Northern Iowa, which made use of the basic elements of the Personalized System of Instruction, developed by Fred Kelier.

Behavioral objectives and mastery tests were developed for six units of instruction. The experimental group received the units and studied each on an individual basis, taking the mastery tests whenever they were ready. The control group learned the same content in regular weekly lecture sessions. Data produced indicated that the students who worked independently did as well as or better than the students taught in the classroom. The former group also scored significantly higher on four of the unit tests and on the final examination.[25] The entire study was a test of the validity of Mager's statement that, "If you give each learner a copy of your objectives, you may not have to do much else."[26] The statement was evidently verified, although Hastings has indicated that great effort was expended in preparing the resource materials.[27]

CONTRACT TEACHING

Several authors have reported on the use of the contract method in teacher education. Mitchell, Santmire, and Howard describe a plan developed at the University of Rochester to help students following their student teaching experience to correct their identified teaching deficiencies through individualized instruction. Following the teaching experience, students prepared contracts with their instructors in which they were asked to:

1. Identify an area of perceived deficiency in the student's preparation for teaching;

2. Establish a set of objectives designed to remedy or ameliorate this deficiency;

3. Outline the specific kinds of objectives;

4. Describe the evaluation procedures that would be used to test the attainment of the objectives.[28]

Students were urged to engage in a wide variety of activities

in pursuit of their objectives. At the conclusion of the course, 97 percent of the students reported that in terms of their present needs and professional goals the course had been valuable, and 59 percent reported that the gains made in knowledge, understanding and/or professional skills were greater than in the average course. A total of 85 percent thought that individualized instruction courses using contracts should be made available to students on a much wider basis. The three instructors were enthusiastic in recommending the method.[29]

An experimental study at the University of Illinois using the contract method with two groups and the traditional lecture method with a matched third group has produced essentially the same results. In this study covering two semesters of a graduate course in the psychology of learning, a contract including the following provisions was used:

1. attendance at five specified class meetings (for purposes of orientation and evaluation of the course);

2. submission of behavioral objectives describing the student's plan of work in the course;

3. at least three conversations with the instructor during the semester (to discuss progress toward objectives);

4. submission of a journal of significant learning experiences;

5. submission of a self-assigned course grade.[30]

Data produced by multiple-choice tests showed that students using the self-directed contract plan learned as much content as those of a similar ability in a traditional section. Evidence also indicated that self-directed study students showed more positive attitudes toward the course. The teacher reports that, "a class of 30 students pursuing such self-directed study takes no more instructor time than a class traditionally taught."[31]

SIMULATION GAMES

Cooper and Sadker reported in 1972 that 78 percent of the teacher education institutions accredited by the National Council for the Accreditation of Teacher Education use simulation games.[32] Zuckerman and Horn's Guide to Simulation Games for Education and Training (1970) lists twenty-two games designed for graduate education courses.[33] The number of players required ranges widely, and the amount of time needed to play the games varies from ten minutes to one semester. Although a few of the games listed are for future teachers, most are designed for principals or other administrators.

An annotated bibliography prepared by Tansey and Unwin in 1969 noted a total of eighty-seven articles related to the use of games in school and college teaching. Only seventeen of these, though, deal with teacher training.[34]

A typical use of games in teacher education has been described by Cruickshank.[35] An experimental study using the Longacre School game produced evidence to show that it is an effective learning mechanism; but the investigators were not sure, as a result of their research, how well learners transfer what is learned during simulation to actual classroom teaching.[36] The devised experiences, however, did provide an opportunity to study teaching behavior, social relationships, and individual differences. Cruickshank notes that "other applications are developing in the fields of counselor training, teaching of reading, student teaching, preparing teachers to work in desegregated schools, preparing teachers to work in inner cities, teacher selection, and professional negotiations,"[37]

MINI-COURSE UNITS

Cooper and Sadker report that a number of teacher education programs are substituting flexible instructional modules or mini-course units for regular classes.[38] These mini-courses are usually characterized by use of behavioral objectives, varying modes of instruction, optional requirements, and variable time requirements dependent upon mastery of objectives. The plan, as used in some colleges, permits use of practicing teachers or administrators for a limited period of instructional leadership who would otherwise be unavailable for a semester-long course.

One of the most extensive programs involving the use of mini-courses has been described by Borg, Langer, and Kelley, who are related to the Teacher Education Program of the Far West Laboratory for Educational Research and Development. They have developed several in-service mini-courses, or self-instructional packages, which can be used wherever a videotape recording system is available. Their mini-courses present skills to be learned as demonstrated by model teachers. The student then, following instructions, conducts a practice lesson, records it on videotape, and evaluates his performance using the self-evaluation forms provided. Immediate feedback is provided by the videotape replays of his teaching.[39]

An experimental field test of the Far West mini-courses showed generally favorable results. Particularly significant were analyses of delayed tests five months after the course, which showed a drop in performance of only one of the twelve skills taught and significant increases in three skills.[40]

The mini-courses were considerably revised and improved as a result of the experiments, and additional courses were prepared. Field test data showed that each of these courses produced substantial changes in teaching

skills under various teaching conditions.[41]

STUDENT TEACHING AND INTERNSHIPS

Numerous studies of research concerned with student teaching or internships have been reported. Harap (1961) has described the results of a study of forty-eight programs of internship teaching, most of which were designed for two semesters of classroom teaching under the guidance of both a school district and a college supervisor.[42] Popham has examined the effects of educational methods courses on subsequent student teaching performance.[43] Dumas has evaluated the strengths and weaknesses of students in teaching English classes.[44] Garth Sorenson has identified the results of student teaching in terms of instructional skills learned.[45] McLain has analyzed sixteen personality variables in relation to student teaching success in an effort to predict the more effective role configurations for secondary teachers.[46] Yee developed and reported testing of a student teaching triad model for interpersonal relations.[47] Gailand, Williams, and Corrigan have developed and validated an instrument for measuring role expectations for student teachers.[48] Denemark and Macdonald have assessed a variety of research studies on pre-service and in-service education of teachers.[49]

A study conducted by Leslie at the University of Utah in which ninety secondary student teachers were randomly assigned to five groups of supervising teachers revealed that there were no apparent advantages in matching the personalities of students and their supervising teachers. The researcher concluded that schools of education would be ill-advised to spend great amounts of time and effort in matching students and teachers.[50] Swineford has investigated the relationship between student teaching behavior and subsequent

effectiveness as actual teachers. His study revealed that one-half of the teachers studied were still teaching in essentially the same way they had taught as student teachers. A number of them had even declined in their ratings rather than improved with experience.[51]

Moss has described the new Colorado State College Internship Program which places students in a regular classroom for a full year on a half-day basis and provides supervision by a master teacher.[52] At San Fernando Valley State College, in order to overcome the detrimental shock effect of initial teaching experience, the college methods class instructor serves as the student-teaching supervisor for twenty students, with no other academic responsivilities during the semester. Metzner, Nelson, and Sharp have reported that the new program makes the needs of the student paramount and provides intensive individual attention, resulting in more effective student teachers.[53]

A significant recommendation of the Harvard University Committee on the Graduate Study of Education was its proposal for a revised and expanded clinical experience for future teachers:

> Briefly we suggest a year's academic residence, preceded by a summer of clinical initiation and followed by a year of supervised, paid internship....The academic year would include a new experimental full course, developed on a case and tutorial model and designed to facilitate realistic entry to the educational profession. The master's degree would not be awarded until satisfactory completion of the internship.[54]

A similar recommendation of a paid internship, in addition to student teaching and laboratory experiences, was made by the New Horizons Task Force.[55] Whitelaw has also strongly encouraged the expansion of internship programs. He maintains that "moving from student teaching to the internship is...the next logical and practical step in carrying forward the good work that has been done to date to establish meaningful and maturing laboratory experiences

for teachers in training."[56]

These, and other studies not reported here, are all evidence of the renewed concern of directors of teacher education programs to provide the kind of individualized instruction and practice that can only be acquired through actual supervised experience in the classroom. As Conant has asserted in The Education of American Teachers: "As we have seen, the one indisputably essential element in professional education is practice teaching."[57] Although further research is needed, supervised student teaching or internships will no doubt play an increasingly important role in the design of teacher education programs.

Use of all these various individualized instruction methods in teacher education seems likely to grow. Gill has pointed out that it is just this individualization which makes the teaching of teachers professional education: "When emphasis in teacher preparation actually moves to the individual teacher and to an individualized plan for his learning, continuous but changing as it must be throughout his career, teaching can then without question take its place as one of the professions."[58] It is obvious that innovative educational changes are occurring in nearly all teacher education institutions, and the motivating emphasis of these changes seems to be an increased individualization of the learning process. With the rapid growth of knowledge, schools cannot hope to provide teachers with all the knowledge and skills they will need immediately, much less then to twenty years later. So the emphasis today is shifting toward teaching students how to learn for themselves, so that upon graduation they will be prepared for life-long self-education. It is for this reason that every method of individualized instruction that enables teachers to learn by themselves has far-reaching significance for the future of teacher

education.

Notes

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9. "FY '71 Program Overviews," (report prepared by the Research and Development Center for Teacher Education, The University of Texas at Austin, February, 1971), pp. 4-5. (Mimeographed.)

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13. Ibid., p. 6.

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